

Application No.: 10/658,260

Docket No.: 22106-00042-US

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application:

LISTING OF CLAIMS

1-13. (Canceled).

14. (Previously presented) A device for measurement of current in a conductor, comprising:

means for detecting a current;

means for transmission of a signal indicative of the current;

electronic means for control, acquisition and processing of the signal indicative of current; and

connecting means for feeding the device and for communication,

wherein the device includes means for feeding the means for detecting a current in an intermittent manner and according to a predefined frequency that depends from an accuracy of the measurement of current to be performed and energy savings to be achieved.

15. (Previously presented) The device according to claim 14, wherein the means for detecting a current includes an insulating support and at least one magnetic field sensor.

16. (Previously presented) The device according to claim 15, wherein the magnetic field sensor is a Hall sensor.

17. (Previously presented) The device according to claim 14, wherein the means for feeding are controlled by the electronic means for the control, acquisition and processing of said signal indicative of the current.

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18. (Previously presented) The device according to claim 14, wherein the means for the transmission of a signal indicative of the current are linked to means of adaptation of the signal.

19. (Previously presented) The device according to claim 18, wherein the means of adaptation of the signal are connected to means of analog-to-digital conversion.

20. (Previously presented) The device according to claim 14, wherein the connecting means include feeding means and means of bidirectional communication.

21. (Previously presented) The device according to claim 20, wherein the feeding means are fed by a current transformer positioned on a conductor.

22. (Previously presented) The device according to claim 21, wherein the conductor is a conductor exposed to measurement.

23. (Previously presented) The device according to claim 20, wherein the feeding means are linked to an external feeding source.

24. (Previously presented) An automatic low voltage circuit breaker including one or more devices according to claim 14, the one or more devices being connected to a communication bus, in its turn connected to a protection device through an interface.

25. (Previously presented) A method for the measurement of the current in an electric conductor through a device according to claim 14, comprising:

feeding the device and bringing the device to running condition;
maintaining the feeding for a period of time r ;
bringing the device in a stand-by condition with feeding interruption.

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26. (Previously presented) The method according to claim 25, wherein the period of time T is divided in a first time fraction τ_1 of stabilization of the sensor and in a second time fraction τ_2 of reading and transmission of the signal.